

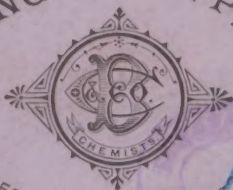
Billings, Clapp & Co.

CHEMICAL
AND
THERAPEUTICAL AGENTS,

NEW AND OLD,

OFFICIAL AND UNOFFICIAL.

BILLINGS, CLAPP, & CO.



SUCCESSORS TO J. R. NICHOLS & CO.

MANUFACTURING CHEMISTS.

ESTABLISHED 1856.

BOSTON, MASS.



CITRATE of MAGNESIA APERIENT

A combination of Citrate of Magnesia with the saline principles, as found in the famous
Seidlitz Springs in Bohemia.

This combination forms a mild, cooling, and healthful *Aperient*, which, from its pleasant, brisk, and sparkling nature is acceptable to invalids, and those who, from constitutional idiosyncrasy, are compelled to employ some laxative agent. The action of the saline constituents among themselves causes brisk effervescence when water is added, and therefore the draught is as pleasant as Soda Water. By the use of this *Aperient* a large number of diseases may be ameliorated, and the vital functions kept in a healthy condition.

Use. This *Aperient* forms a pleasant beverage by using with the water a little lemon syrup, enough to suit the taste, and enough of the salt to produce effervescence.

PREPARED ONLY BY
BILLINGS, CLAPP & CO.
Manufacturing Chemists, BOSTON.

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office of the Librarian at Washington.
RUSSELL-RICHARDSON-SC

KEEP THIS BOTTLE TIGHTLY CORKE'D.

Our preparations are for sale, whole-sale and retail, by druggists throughout the United States.



CHEMICAL
AND
THERAPEUTICAL AGENTS,

NEW AND OLD,

OFFICIAL AND UNOFFICIAL.

BILLINGS, CLAPP, & CO.

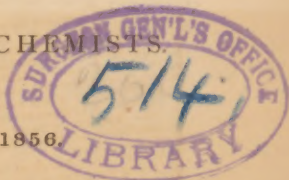


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PREFACE.

IN presenting a revised list and descriptive catalogue of the Chemical and Therapeutical products of our laboratory, we desire to state that there are not a large number of new remedies to which we desire to call attention. It is manifestly not the part of wisdom to neglect old and tried remedies, and seek for those of doubtful merit, simply because they are new; but it seems to us that this is a practice too common among physicians. During the two years since the revision of our catalogue, several very important and really useful therapeutical agents have been discovered, and also a great many mixtures have come into notice which are valueless, or quite unnecessary. Among the latter are the numerous "Elixirs," Syrups, Sugar-coated Pills, etc., which do not originate from any real progress in pharmacy. Most of these we supply, as they are often ordered by druggists and physicians, but we do not recommend or approve of them. If physicians insist upon prescribing such combinations, it is not for us to refuse to supply them. There are, however, several elixirs and combinations of this class which are very excellent and elegant, and should not be discarded. Some of those to which attention is called in this catalogue, have been in the

hands of physicians, *eight, ten, and fifteen* years, and have been found reliable and effective. Such is the Elixir Valerinate of Ammonia, Elixir Peruvian Bark with Protoxide of Iron, and Elixir Calisaya.

No vesicating material has been devised better, or more convenient than the Acetic Cantharidal Vesicant, and the Iodide of Calcium, or more properly (having regard to its exact chemical nature), "Iodide of Lime," must be regarded as one of the cheapest, most pleasant, and effective of the iodine combinations. These are *old* remedies, no one of them having been in use less than ten years, but there is no reason for overlooking or discarding them, until some better agents of the same class are devised.

Many physicians and druggists are not able to procure our therapeutical agents, because when ordered others are substituted, or imitations are sent by dealers, or because of their distance from the centres of trade. To obviate this serious evil we shall publish occasionally in the "Journal of Chemistry" a list of our manufactures with prices affixed; the prices will include vials, and packages of all descriptions. To purchasers in any part of the United States who will order *one hundred* dollars worth of the products of our laboratory, at the same time sending remittance by draft or post-office order, we will deliver the goods by railroad freight lines (*not by express*) *free of cost* to the purchaser. Druggists and physicians who may not individually wish to purchase at one time this amount of goods, may find it convenient to combine together, sending for such articles as each may desire and thus obtain them without cost of freightage.

Special prices for our products in large quantities given upon application.

We desire to return thanks to the medical gentlemen who have so generously bestowed upon us their patronage during the past seventeen years. The increasing demand for our products from all parts of the country has induced us to erect a new and commodious stone fire-proof laboratory, and to greatly improve and extend our apparatus, so that with enlarged facilities for producing chemical and therapeutical agents of standard purity, we hope to meet the increased demand, and to retain the confidence of our patrons.

Having retired from business connection with the house of JAMES R. NICHOLS & Co., in consequence of impaired health and the pressure of public and private duties, I would most cordially commend to the favorable consideration of our friends and customers my former partners, who continue the business under a new name. They have been associated with me in business during a period of sixteen years, and having abundant pecuniary resources, experience, and skill, the reputation of the house will be fully sustained. The interruption caused by the late conflagration in this city is but temporary, and the usual full list of chemical and therapeutical agents will be speedily supplied.

JAMES R. NICHOLS.

BOSTON, *November 29, 1872.*

METRICAL WEIGHTS AND MEASURES.

The French metrical system of weights and measures is so imperfectly understood in this country that we present below tables showing the relations between the French unit of weights and our own. Also the metrical measures of capacity.

Measures of Weight.			
<i>Metrical Weights.</i>		<i>Exact Equivalents in grains.</i>	<i>Approximate Equivalents in our weights.</i>
One Milligramme	is equal to	.0154	gr. $\frac{1}{64}$
" Centigramme	"	.1543	" $\frac{1}{6}$
" Decigramme	"	1.543	" $1\frac{1}{2}$
" Gramme	"	15.434	" xv
" Decagramme	"	154.340	3 iiss
" Hectogramme	"	1543.402	3 iii ðv

<i>English Weights.</i>		<i>Metrical Weights.</i>
One Grain	is equal to	6.479 Centigrammes.
Ten Grains	"	6.479 Decigrammes.
One Drachm	"	3.887 Grammes.
One Ounce	"	3.1103 Decagrammes.
Eight Ounces	"	2.4882 Hectogrammes.
One Pound	"	3.7324 Hectogrammes.

- One Milligramme = one thousandth part of a gramme.
 " Centigramme = " hundredth " " "
 " Decigramme = " tenth " " "
 " Gramme = the weight of a cubic centimetre of water at 4° C.
 " Decagramme = ten grammes.
 " Hectogramme = one hundred grammes.
 " Kilogramme = one thousand grammes.
 " Myriagramme = ten thousand grammes.

- Measures of Length.**
- One Millimetre = one thousandth part of a metre.
 " Centimetre = " hundredth " " "
 " Decimetre = " tenth " " "
 " Metre = the ten millionth part of a quarter of the meridian of the earth.
 " Decametre = ten metres.
 " Hectometre = one hundred metres.

- Measures of Capacity.**
- One Millilitre = the measure of one gramme of water.
 " Centilitre = the measure of ten grammes of water.
 " Decilitre = the measure of one hundred grammes of water.
 " Litre = the measure of one thousand grammes of water.

From "Boston Journal of Chemistry."

CHEMICAL EXAMINATION OF URINE.

BY JAMES R. NICHOLS, M. D.

THE service which chemistry is capable of rendering to medicine is fully recognized by physicians, and, to a considerable extent, its aid is summoned in determining the nature of disease. It must be confessed, however, that there are far too few who invoke assistance from this quarter, and that the healing art suffers some opprobrium in consequence. The probable reason why so few physicians employ chemical testings as an aid in diagnosis is, that they regard such labor difficult, and that only professional chemists are able to obtain reliable results. Such impressions are certainly in part erroneous. Nothing, for instance, is more simple or easily understood than the work of testing urine, and this constitutes one of the most important auxiliaries in diagnosis which the physician can call to his aid. During the past twenty-five years, the writer's services have been constantly solicited in the examination of urine, blood, and other of the more important animal products, both healthy and morbid, and in a large number of these instances the work could have been easily and readily performed by those who intrusted to him the service.

With the view of offering aid to our readers in this important department of chemical investigation, we have con-

cluded to arrange, in a brief and comprehensive way, some plain directions for analyzing or testing urine.

As regards apparatus, but very little is required. A dozen test tubes of medium size, two or three watch crystals, a spirit lamp, specific gravity apparatus, — these, with test paper, a few acids, alkalies, etc., and the outfit is sufficiently complete. The whole may be purchased for about ten dollars. It is presumed that all intelligent physicians possess a microscope adapted to medical purposes. If any, however, have not this indispensable instrument, they should, without delay, procure one. The cost may not exceed fifty dollars for one of adequate power, but if this sum seems large, they can procure for a very few dollars some one of the little devices which modern ingenuity and skill have provided, and which answer admirably many of the purposes of more costly instruments. A friend, a short time since, called my attention to a little affair not larger than a lady's thimble, and costing but one dollar, which afforded a power, if we mistake not, of forty diameters, and was so constructed as to serve an excellent purpose for medical investigation. A more particular description of this may be given at a subsequent time.

In examining the urinary secretion, there are certain physical indications which awaken suspicion, and lead to a desire to institute chemical tests. The liquid has some peculiarity of appearance or color, or seems abnormal in the sedimentary deposit, or its specific gravity is conjectured to be too high or too low. If it is suspected to be diabetic, the first step is to ascertain its specific gravity. This may be done by the urinometer, a little instrument constructed on the principle of the hydrometer. Its cost is about three dollars, and it can be procured of apparatus dealers in all large cities. Healthy urine varies in specific gravity from 1003 to 1030, depending upon the food taken, and the time

of day at which it is passed. The urine selected for examination should be that passed after a night's rest, and if found to be somewhere between 1015 and 1025, no positive morbid condition is indicated. If, however, it is found ranging between 1025 and 1045 it is probably *diabetic*. While a moderately low specific gravity is no positive proof of the absence of sugar, a high specific gravity is one of the most certain indications of its presence. If the urine under examination is of high specific gravity, and if, after standing, a white scum forms resembling flour, and if about a teaspoonful mixed with half the quantity of liquor potassa and boiled in a test tube over a spirit lamp assumes a *bronish tint*, it may be pretty safely concluded that it is diabetic. To render it still more certain, fill a test tube one third full of the urine, and then add of a solution of blue vitriol (sulphate of copper) a drop or two, just enough to give it a very pale blue tint; now add of liquor potassa enough to fill the test tube half full, and heat it over the spirit lamp until it boils. If sugar is present, a *reddish or yellowish brown* precipitate will be found; if no sugar is present, the precipitate will be *black*. If the physician entertains strong suspicions that he has a diabetic patient, he should, before deciding, institute the chemical tests, even when the density of the urine is not found abnormal. If the urine is suspected to contain *albumen* (Bright's disease), fill a test tube one third full, and gently boil it over the lamp. If albumen is present it will coagulate and form a more or less dense white precipitate. If the albumen is present only in a minute quantity, it may cause merely a delicate opalescence, or when in larger quantity it may separate in curdy flakes, and if very abundant may cause the liquid to gelatinize and become nearly solid.

The physician, however, must not conclude that his patient has Bright's disease because of the formation of a

white precipitate upon boiling the urine, as an excess of earthy phosphates will produce this appearance when no albumen is present. To prevent the possibility of error, he should test another portion of the urine by dropping in a few drops of dilute nitric acid. If this affords a milkiness which remains, and if the boiling also gives like results, he may be certain of the presence of albumen.

If urine is suspected to contain too much *urea*, place a drop on a slip of glass, and add to it a drop of pure nitric acid. Rhomboidal crystals will form in a few moments if *urea* is present in large excess. If none form which are visible to the naked eye, use the microscope, and if, after standing in a cool place half an hour, but few are revealed by it, it may be concluded there is no excess of *urea*.

If urine contains *uric acid* in excess, it usually has rather a high color, either deep amber or reddish brown. It promptly reddens litmus paper. As it cools after boiling, a crystalline sediment forms of a decided red color. Place a little of this sediment on a slip of glass, and examine with a microscope; if single or groups of well-defined crystals are seen, they are those of uric acid. Warm the urine containing the sediment, and uric acid, if present, *will not* dissolve. Add a few drops of liquor potassa to the sediment; uric acid *dissolves* in contact with this. This acid is present in minute quantities in healthy urine; with a little experimenting the physician can readily judge of its presence in abnormal quantities. This point it is important to know, as in certain diseases such knowledge is a valuable assistant to the physician in diagnosis.

The quantity of *uric acid* found in the healthy secretion is seldom more than 0.3 in 1,000 parts; in morbid urine there may be scarcely a trace, or it may run up as high as 2 parts in 1,000.

It is seldom that ammonia, or ammoniacal salts, are no-

ticed in perfectly fresh urine. Upon standing, however, by decomposition, the nitrogenous constituents assume the form of ammoniacal compounds. Sometimes urine will be found to contain an excess of *urate of ammonia*. When this is the case, it is usually high colored, dense, and turbid. To test paper it will be found to give an acid reaction. This, however, is not always a positive result. *Urate of ammonia* is a very common deposit in urine. It forms the sediment which quacks make so much account of in their intercourse with their duped patients. The *brick-dust* sediment, as they designate it, is the sure evidence of terrible *inward* disease; and so long as they are able to point out the least trace of the deposit, so long will their nostrums be paid for, and swallowed by the patient.

The color of the sediment varies. Sometimes it is a reddish purple, and sometimes a pink, or it may be a pale fawn color. Other alkaline bases, as potash and soda, are combined with uric acid in the sediment. To detect urate of ammonia, place a portion in a test tube, and gently warm it over a lamp. *It will readily dissolve*. Allow it to cool, and it will again precipitate. Under the microscope, it appears as an amorphous powder, and mixed with it are seen small round particles larger than the rest. To prevent mistaking the phosphate of lime for urate of ammonia, add a drop of hydrochloric acid to the deposit, on a slip of glass; if it is the former, it will instantly dissolve; if the latter, decomposition will slowly result, and minute crystals of uric acid will form. It is also important to distinguish between the *earthy phosphates* and urate of ammonia, in testing urine. The latter deposits rapidly upon cooling, or soon after the urine is voided; the former require considerable time for chemical changes to occur, before they fall. Healthy urine always holds in solution the phosphates, that of lime being the most prominent. Sometimes they exist in

abnormal quantity. It is difficult for the physician to form an opinion as to the amount present, whether it be normal or abnormal, by examining the urine, as sometimes, in peculiar states, there will be a spontaneous and rapid precipitation when they are not in excess ; and then, again, when the urine is loaded with them, they will be held in solution. If he has reason to suspect their presence, the addition of a few drops of ammonia to urine, with warming, will cause them to precipitate, and the quantity must be judged of by comparison with that from urine known to be healthy.

When urine contains *mucus* as an abnormal ingredient, it does not usually differ in color from the healthy secretion : but the *deposit* is viscid and tenacious, and of a dirty yellow color. A vessel containing mucous urine has two layers — the ropy, tenacious mass at the bottom, and the more limpid liquid at the top. When agitated, the two do not readily mix together. This physical appearance will be sufficient, perhaps, to distinguish it from *pus*, but to give more certainty, heat a little in a test tube, with a drop or two of nitric acid ; if *pus* is present, albumen is also, and it will coagulate, or form a floccy precipitate.

The absence of albumen in urine, is a strong, almost positive indication of the absence of *pus*. The urine containing this substance is sometimes neutral, sometimes acid, and also alkaline ; so test paper affords no indications in regard to its presence.

Semen is occasionally found in urine, and for its detection we must rely upon the microscope of high power. When it is present, the microscope reveals plenty of minute animalcules, of a more or less oval form, with long and delicate tails, resembling somewhat the tadpole. These, of course, are the *embryo* of the human being ; and when seen in their native fluid, are active, moving about at will. In the urine, however, they are seldom found alive, the secretion proving fatal to them.

The ground gone over in these remarks upon qualitative analysis of urine is perhaps sufficiently extended to afford all necessary aid to the physician in the important department of diagnosis. Simple and reliable methods of testing for the important agents in morbid urine, have been given in the fewest words possible, and it is quite unnecessary to confuse, by referring to more complex and difficult processes to reach the same general results, or to explain methods of quantitative analysis.

The intention is to show that by a few simple experiments it becomes easy, not only to confirm or dissipate our suspicions as regards the character of any specimen of urine, but, if morbid, to discover the nature of the difficulty. It may be well to briefly recapitulate the nature of the testings, and notice a few other reactions which are worthy of observation.

The first step in the examination is to test with blue litmus paper ; if acid, the color will change to *red* or *reddish purple*. If no change is produced, test with a strip of turmeric-paper ; if alkaline, it will become *brown*. If the liquid is alkaline, the alkalinity is probably due to the conversion of urea into carbonate of ammonia.

2. Ascertain the specific gravity of the urine by means of an urinometer ; if that is not at hand, it may be ascertained by the use of a small phial.

These two steps being taken, the next may be postponed until time has elapsed sufficient for a sediment or deposit to form. If this occurs, it will most probably consist of *earthy phosphates*, *uric acid*, *urate of soda*, or *ammonia*, or *oxalate of lime*. These may sometimes be found alone, or sometimes two or more, mixed with the others.

3. Warm the deposit in a test tube ; if it dissolves, it is probably *urate of soda*, or ammonia. If it does not dissolve, —

4. Add three or four drops of acetic acid to another portion; if it *dissolves*, it consists of *earthy phosphates*.

5. If it proves insoluble, try a little with hydrochloric acid; if it dissolves, it is probably *oxalite of lime*.

5. If still insoluble, dry a little of the sediment upon a watch-glass, and add a drop or two of nitric acid; if it dissolves, dry again to a powder, and *when cold* add a drop or two of ammonia; if this affords a beautiful purplish-red color, it is *uric acid*.

These experiments show if the sediment be either of the four substances most common, earthy phosphates, urate of ammonia, oxalate of lime, or uric acid.

If it is neither of these, it may be *pus*, *mucus*, *semen*, *blood*, *cystine*, *fatty matter*, or chylous matter. The methods of detection of the first three substances have been pointed out with sufficient distinctness. Blood may be known by the *color*; also, it is not soluble when warmed. If a portion is warmed in a test tube, and a drop or two of nitric acid added, it will coagulate.

To ascertain if it be fatty or chylous matter, agitate a portion with an equal bulk of ether, in a test tube. Allow the ether to evaporate, and the fatty matter will be left behind; mix water with it, and observe the globules of fat float on the top. If, when the ether is shaken up with the urine, it becomes *opaque and almost milky*, chylous matter is probably present. Place a little of the deposit in a watch-glass, and add a few drops of ammonia; if it is *cystine*, it will dissolve. Dry the solution over the spirit lamp, and examine the crystals with the microscope; if the form is distinctly *hexagonal*, the proof of the presence of cystine is conclusive. If the urine under examination affords no deposit upon standing, it may be subjected to the same class of testings, having the same objects in view, as has been described in these papers.

The use of the microscope in this class of investigations is all-important. The most extended and satisfactory results cannot well be reached without the use of an instrument of the power of two hundred diameters. Smaller instruments, however, may be of great service, where larger ones are not at hand.

"THE BOSTON JOURNAL OF CHEMISTRY," of much interest to Physicians, is published upon the first of each month, at the low subscription price of \$1.00 per annum.

Address BILLINGS, CLAPP, & Co., *Publishers*,
Boston, Mass.

Physicians frequently write to us for information respecting the price of a microscope, with eye-pieces and objectives of sufficient power for examination of urine, and for clinical purposes generally; also for a cheaper instrument of sufficient power for ordinary work. In reply we will state that a good student's microscope can be procured, and sent to any party upon the receipt of \$50.00, draft or post-office money order. A fair microscope of low power can be furnished for \$6.00.

NOTICE.

Since the publication of the brief articles upon Chemical Examination of Urine, in the *Boston Journal of Chemistry*, we have been urged by many of our medical friends to arrange a case of instruments and reagents suited to qualitative analysis of urine.

Yielding to their solicitations, we have prepared a neat case, containing everything needed for the purpose, which we can furnish complete.

The box is of black walnut with a good lock, and contains chemically pure Nitric, Hydrochloric, and Acetic Acids, Ammonia, Liquor Potassa, Solution Sulph. Copper, Test Papers, Spirit Lamp, Urinometer, Watch Glasses, Test Tubes, Glass Stirring Rods, Scales, etc.

Price of case, complete, \$10.00.

The smaller microscope referred to on the preceding page can be included in this box if desired.

Price *with microscope*, \$15.00.

Upon receiving orders, with the price accompanying, we will promptly forward the case to any part of the country by express.

BILLINGS, CLAPP, & CO., *Boston.*

CHEMICAL AND THERAPEUTICAL AGENTS,

PREPARED BY

BILLINGS, CLAPP, & CO.,

SUCCESSORS TO

JAMES R. NICHOLS & CO.,

MANUFACTURING CHEMISTS,

BOSTON, MASS.

Below we present a list of the remedial agents now furnished by us. We do not quote prices in consequence of the fluctuations of the market, but shall be pleased to price any of our products if our friends will inform us what articles are desired and what quantity they are prepared to purchase.

ACID, Acetic	5 lb. bots.	25 lb.
Acetic glacial	g. s. b.	15 lb.
Acetic glacial	g. s. v.	7 oz.
Benzoic		oz.
Carbolic, Crystals, C. P.	c. b.	10 lb.
Carbolic, Crystals, C. P.	c. v.	4 oz.
Carbolic, Solution, extra	c. b.	10 lb.
Carbolic, Solution, extra	demi.	55 gall.
Carbolic, Solution, Com.	can.	25 gall.
Chromic.	g. s. v.	7 oz.

In fine crimson crystals, much used for the destruction of warts and morbid growths. Used as a substitute for nitrate of silver, in ulcerations, erosions, etc.

Citric	c. b.	10 lb.
Gallic		lb.
Gallic	c. v.	5 oz.

ACID, Hydrosulphuric	c. b. 10	lb.
Hypophosphorus	c. v. 4	oz.
Lactic, concent.	g. s. v. 7	oz.
Lactic, dilut.	g. s. v. 7	oz.
Phenic, Crystals	c. v. 4	oz.
Phosphoric, glacial	g. s. v. 7	oz.
Phosphoric, 50 p. c. anhyd.	c. b. 10	lb.
Phosphoric, 25 p. c. anhyd.	c. b. 10	lb.
Prussic, U. S. P.,	g. s. v. 7	oz.
Pyrogallic	c. v. 5	oz.
Sulphurous, sol.	c. b. 10	lb.

A well known and highly useful remedy in skin diseases.

For the cure of "Itch" it is a specific.

Valerianic	g. s. v. 7	oz.
ALUM, Ammonio-Ferric	c. b. 10	lb.
Ammonio-Ferric	c. v. 4	oz.
AMMONIA, Borate	c. v. 4	oz.
Hypophosphite	c. b. 14	lb.
Hypophosphite	c. v. 4	oz.
Nitrate, C. P.	bulk	lb.
Spirits	5 lb. bot. 25	lb.
Spirits, Aromatic	5 lb. bot. 25	lb.
Valerianate, Crystals	g. s. v. 7	oz.
AMMONIUM, Bromide	c. b. 10	lb.
Bromide,	c. v. 4	oz.
Hydrosulphide (Hydro-sulphuret)	c. b. 10	lb.
Iodide	g. s. v. 7	oz.
AMYLE, Acetate of Oxide	g. s. b. 15	lb.
ANILINE, Sulphate	c. v. 4	oz.
ANTIMONY, Sol. Chloride (Butter)	c. b. 10	lb.
ARSENIC, Donovan's Solution	c. b. 10	lb.
Donovan's Solution	5 lb. bots. 25	lb.
Fowler's Solution	c. b. 10	lb.
Fowler's Solution	5 lb. bots. 25	lb.

ARSENIC, Iodide	g. s. v. 7	oz.
ATROPIA, in $\frac{1}{8}$ oz. vials		$\frac{1}{8}$ oz.
Fleming's Sol., in 4 oz. vials		ea.
Sulphate, in $\frac{1}{8}$ oz. vials		$\frac{1}{8}$ oz.
BISMUTH, Citrate (Salt)	c. v. 4	oz.
Elixir, Cal. and Iron. (See Elixir.)		
Liquid (Ammon.)	c. b. 10	lb.
Tannate	c. v. 4	oz.
BLACK DROP	c. b. 10	lb.
CAFFEINE, in $\frac{1}{8}$ oz. vials		$\frac{1}{8}$ oz.
CALCIUM Chloride	c. b. 10	lb.
Chloride Solut. pure	c. b. 10	lb.
Cantharidal Acetic Rubefacient		doz.

This produces milder effects on the skin than vesicant, and is used as a substitute for mustard and other irritants.

Cantharidal Acetic Vesicant		doz.
---------------------------------------	--	------

This article, originated by us, is well understood by physicians, and is the most prompt and convenient blistering fluid yet devised. The sale is rapidly increasing in all sections. The cork under the cap should never be thrown aside, but kept firmly in place, to prevent evaporation.

CANTHARIDAL COLLODION. (See Collodion.)		
---	--	--

CERIUM Oxalate	c. v. 4	oz.
Used for obstinate vomiting arising from pregnancy and other causes. Dose, from one to three grains, in sugar or water.		

CHLORAL HYDRATE	c. b. 10	lb.
	g. s. v. 7	oz.

CHLORINE WATER	c. b. 10	lb.
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CHLOROFORM, C. P.	g. s. b. 13, c. b. 10	lb.
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CINCHONIA, Sulph.	c. v. 4	oz.
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CODEINE, in $\frac{1}{8}$ oz. vials		$\frac{1}{8}$ oz.
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Cod-Liver Oil		gross.
-------------------------	--	--------

Cod-Liver Oil with Hypophosphites of		
--------------------------------------	--	--

Lime and Soda combined		gross.
----------------------------------	--	--------

COLLODION, Cantharidal		doz.
----------------------------------	--	------

20 *Chemical and Therapeutical Agents,*

COLLODION, Cantharidal	c. b. 10	lb.
Surgical		doz.
Surgical	c. b. 10	lb.
COPPER, Ammoniated	c. b. 10	lb.
COTTON, Soluble		oz.
CREASOTE	c. b. 10	lb.
DOVERS' POWDER	c. b. 9	lb.
Elixir, Beef, Iron, and Wine		doz.
		gal.
Calisaya		doz.
Securely packed in 3-gallon demijohns (package free).		
Calisaya, Iron, and Bismuth		doz.
Cinchonia, Iron, and Strychnia		doz.
Peruvian Bark with Protox. Iron,		gross.
		doz.
Phosphate Iron and Quinine		doz.
Pyrophosphate Iron and Bark		doz.
Pyrophosphate Iron and Soda		doz.
Rhubarb with Fluid Magnesia		doz.
Valerianate Ammonia	c. b. 10	lb.
Valerianate Ammonia		gross.
Valerianate Ammonia and Quinine		doz.
Valerianate Strychnia		doz.
ETHER, Acetic	c. b. 10	lb.
Butyric, concent.	c. b. 10	lb.
Chloric	c. b. 10	lb.
Chloric, concent. C. P.	c. b. 10	lb.
Spirits Nitros, C. P.	c. b. 10	lb.
This superior official nitre we furnish in one pound packages. It does not keep well in larger.		
Spirits Nitros, FFFF	c. b. 10	lb.
Sulphuric, fort. ext.	c. b. 10	lb.
EXTRACT CANNIBIS INDICA, true, jars	7	oz.
Nux Vomica, jars	7	oz.

EXTRACT OF FLESH	c. z.
FERRATED TINCTURE OF BARK	c. b. 10 lb.
FUSEL OIL, purified	c. b. 10 lb.
GLONOINE, Tincture	oz
GLYCERINE, C. P. including bottle and carton	lb.

This glycerine is equal to any produced in this country or Europe. Put up in wedge-shaped bottles.

Condensed	g. s. b. 15	lb.
Condensed	c. b. 10	lb.
GLYCEROLE HYPOPHOSPHITES	c. b. 10	lb.
GOLD, Chloride	15 grain bots. 24	doz.
Chloride and Sodium	15 grain bots. 24	doz.
Chloride and Sodium	$\frac{1}{8}$ oz. v. 30	oz.
GRANVILLE'S LOTION	c. b. 10	lb.
HOFFMAN'S ANODYNE	4 $\frac{1}{2}$ lb. bots. 25	lb.
.	c. b. 10	lb.
Officinal U. S. P.	c. b. 10	lb.
INFUSUM OPII DEODORATUM	c. b. 10	lb.
.	oz. bottles	doz.
.		gross

This is a new preparation of opium, prepared with the use of ether and water, by which the deleterious principles of opium are removed. It is intended to take the place of various elixirs and solutions, which are largely used. It is officinal in the new Pharmacopœia.

IODINE, Resublimed	b. 20	lb.
Crude	b. 20	lb.
Carbolate, solution	c. b. 10	lb.
ODOFORM (in $\frac{1}{8}$ oz. vials, 30c.)	c. b. 4	oz.
Iron Ammoniated Citrate	c. b. 15	lb.
.	c. v. 4	oz.
Citrate (readily soluble)	c. b. 15	lb.
.	c. v. 4	oz.
Citrate and Manganese	c. v. 4	oz.
Citrate, Manganese, and Strychnine,		oz.

Iron, Citrate and Quinine	. . . . . c. b. 15	lb.
	. . . . . c. v. 4	oz.
Citrate and Quinine with Strych-		
nine	. . . . . c. v. 4	oz.
Citrate and Strychnia	. . . . . c. v. 4	oz.
Hydrated Sesquioxide	. . . . . c. b. 10	lb.
Hydrocyanate	. . . . . c. v. 4	oz.
Hypophosphite	. . . . . c. b. 10	lb.
Hypophosphite	. . . . . c. v. 4	oz.
Iodide	. . . . . g. s. v. 7	oz.
Iodide Syrup	. . . . . g. s. b. 14	lb.
Iodide Syrup	. . . . . c. b. 10	lb.
Muriate, Tincture	. . . . . 5 lb. bots. 25	lb.
Muriate, Tincture	. . . . . c. b. 10	lb.
Nitrate	. . . . . c. b. 10	lb.
Perchloride, dry	. . . . . g. s. v. 7	oz.
Perchloride solution	. . . . . c. b. 10	lb.
Perchloride solution 36° B	. . . . . c. b. 10	lb.
Pernitrate	. . . . . c. b. 10	lb.
Persulphate, Mon's Styp. Sol.	. . . . . c. b. 10	lb.
Persulphate, Mon's Styp. Sol.	. . . . . oz. vials	doz.
Persulphate, Mon's Powder	. . . . . c. b. 10	lb.
Persulphate, Mon's Powder	. . . . .	doz.
Phosphate	. . . . . c. b. 15	lb.
Proto. Carb. pure precip.	. . . . . c. b. 15	15
Proto. Carb. Vallet's mass	. . . . . pots 12	lb.
Proto. Carb. Saccharine	. . . . . c. b. 15	lb.
Protoxide, Solution	. . . . .	doz.
Protoxide	. . . . .	gross.
Pyrophosphate, in scales	. . . . . c. b. 15	lb.
Pyrophosphate, in scales	. . . . . c. v. 4	oz.
Reduced (Iron by Hydrogen)	. . . . . c. b. 10	lb.
Sulphuret	. . . . . c. b. 10	lb.
Tartrate and Ammonia	. . . . . c. b. 15	lb.

Iron, Tartrate and Ammonia	c. v. 4	oz.
Tart. and Potassa, plates	c. b. 15	lb.
Tart. and Potassa, plates	c. v. 4	oz.
LEAD, Acetate, C. P.	c. b.	lb.
Iodide	c. v. 3	oz.
Sab. Acet. Sol. (Goulard's Ex.)	c. b. 10	lb.
LIEBIG'S NUTRITIVE FOOD		gross.
LIME, Carbolate,	boxes holding 10 lbs. each.	
Carbolate	boxes holding 25 lbs. each.	
Carbolate	boxes holding 100 lbs. each.	
Carbolate	in 1 lb. packages, doz.	
Carbolate	in 1 lb. packages, gross.	
Carbolate, C. P.	for sick-room, 2 oz. v.	doz.
Iodide	b. 15	lb.
Iodide	g. s. v. 7	oz.

This valuable alterative and tonic was first brought to the notice of physicians by us. We have seen iodide of calcium and various salts labeled "Iodide of Lime," made by other manufacturers. It is a matter of regret that the reputation of the article should suffer from such a course. The name, "Iodide of Lime," was given the preparation by Dr. Pudduck, a well known English physician, who first suggested the remedy. It is, chemically, a combination of iodide with an iodate, and therefore differs from the iodides proper. It is a dark-brown amorphous powder, forming with hot water a colorless solution. It should be given only in solution.

Horsford's Sulphite	in cartons, doz.	
Horsford's Sulphite		gross.
Hypophosphite	c. b. 14	lb.
Hypophosphite	c. v. 4	oz.
Hypophosphite and Soda	c. v. 4	oz.
Magnesia Aperient.		gross.
Citrate, Soluble	b. 15	lb.
.	small bots. gross.	
Sulphite	c. b. 14	lb.

24 *Chemical and Therapeutical Agents,*

MANGANESE, Black Oxide, purified	. . . c. v.	3	oz.
Hypophos	. . . . . c. b.	10	lb
Hypophos.	. . . . . c. v.	4	oz.
Sulphate	. . . . . c. v.	4	oz.
MERCURY, Acid Nitrate	. . . . . g. s. v.	7	oz.
Iodide (Proto and Bin)	. . . c. v.	3	oz.
NARCEINE	. . . . .	10 grain	vials.
PAPER, Litmus	. . . . .	sheets,	doz.
Turmeric	. . . . .	sheets,	doz.
PEPSINE, pure	. . . . .		oz.
(Boudault's Formula)	. . . . .		oz.
Wine	. . . . . in wine bots.,		doz.
PIPERINE	. . . . . c. v.	4	oz.
PLATINUM, Chloride	. . . . . g. s. v.	7	oz.
POTASSA, Acetate	. . . . . c. b.	15	oz.
Carbolate	. . . . . g. s. v.	7	oz.
Chlorate, C. P.	. . . . . c. b.	10	lb.
Hypophosphite	. . . . . c. b.	10	lb.
Hypophosphite	. . . . . c. v.	4	oz.
Liquor	. . . . . c. b.	10	lb.
Permanganate, Crystals	. . . . . c. v.	4	oz.
Permanganate, Solution	. . . . .		doz.
Permanganate, Solution	. . . . . demi.	55	gall.
Silicate, Solution	. . . . . pint	bot.	ea.
Silicate, Solution	. . . . . half	gall. bot.	ea.
Yellow Chromate Neut.	. . . . . c. b.	10	lb.
POTASSIUM, Bromide	. . . . . c. b.	8	lb.
Bromide	. . . . . c. v.	4	oz.
Chloride	. . . . . c. b.	14	lb.
Iodide	. . . . . c. b.	9	lb.
Sulphuret	. . . . . c. b.	10	lb.
Propylamin	. . . . . 1 oz. and $\frac{1}{4}$ oz.	vials,	oz.
PROTEINE	. . . . . $\frac{1}{4}$ oz.	vials,	oz.
Quinine, Cincho-	. . . . .	Net,	oz.
Pills, Sugar Coated.			

QUININE, CINCHO-			Pills, 1 grain, per hundred.		
			Pills, 2 grains, per hundred.		
			Pills, 3 grains, per hundred.		
SANTONINE	. . . . .	c. v.	4	oz.	
SILVER, Bromide	. . . . .	c. v.	4	oz.	
Chloride	. . . . .	c. v.	4	oz.	
Cyanide	. . . . .	c. v.	4	oz.	
Iodide	. . . . .	c. v.	4	oz.	
Oxide	. . . . .	c. v.	4	oz.	
SODA, Bisulphite, Liquor	. . . . .	c. b.	10	lb.	
Chloride, Liquid	. . . . .	c. b.	10	pt	
Chloride, Liquid	. . . . .			gall	
Hypophosphite	. . . . .	c. b.	14	lb.	
Hypophosphite	. . . . .	c. v.	4	oz.	
Silicate, (soluble glass)	. . . . .			lb.	
Silicate, Solution	. . . . .		pint	bots.	ea.
Silicate, Solution	. . . . .		half	gall.	bot.
SODIUM, Iodide	. . . . .	c. v.	4	oz.	
SPIRITS AMMONIA	. . . . .	5 lb.	bot.	25	lb.
Aromatic	. . . . .	5 lb.	bot.	25	lb.
Chloroform, U. S. P.	. . . . .	c. b.	10	lb.	
Lavender	. . . . .	c. b.	10	lb.	
Lavender, Comp.	. . . . .	c. b.	10	lb.	
Rosemary	. . . . .	c. b.	10	lb.	
STRYCHNIA, Solut. Fleming's	. . . . .	4 oz.	vials,		ea.
Valerianate	. . . . .	g. s. v.	7	oz.	
Valerianate, Elixir	. . . . .			doz	
STYPTIC COLLOID	. . . . .	1 oz.	g. s. v.	doz	
and Creasote	. . . . .	1 oz.	g. s. v.	doz	
and Carb. Acid	. . . . .	1 oz.	g. s. v.	doz	
and Quinine	. . . . .	1 oz.	g. s. v.	doz	
and Iodine	. . . . .	1 oz.	g. s. v.	doz	
and Bich. Mer.	. . . . .	1 oz.	g. s. v.	doz	
and Morphine	. . . . .	1 oz.	g. s. v.	doz	

ZINC, Chloride, commercial	14	lb.
Tannate	C. V. 4	oz.
Valerianate, $\frac{1}{4}$ oz. vials	C. V. 3	oz.

OFFICINAL STANDARD FLUID EXTRACTS.

1r : lb. Bottles.

Aconite Root.	Dandelion Root.
Arnica Flowers.	Dandelion Compound.
Belladonna.	Digitalis.
Blackberry Root.	Ergot.
Bloodroot.	Gelseminum.
Buchu.	Gentian.
Buchu Compound.	Gentian Compound.
Burdock Root.	Ginger.
Butternut.	Golden Seal.
Capsicum.	Hellebore, Black.
Cannabis Indica.	Henbane.
Cinchona.	Hop.
Cinchona Calisaya.	Hydrangea.
Cinchona Compound.	Ipecac.
Chamomile.	Ipecac and Senega.
Cherry Bark, Wild.	Jalap.
Cohosh, Black.	Ladies' Slipper (Cypripedium.)
Columbo.	Lettuce.
Comfrey.	Liquorice.
Conium.	Lobelia.
Cotton Root.	Mandrake.
Colchicum Root.	Nux Vomica.
Colchicum Seed	Opium, Aqueous.
Cubebs.	

Pinkroot.	Seneca.
Pinkroot and Senna.	Senna.
Pipsissewa.	Snake Root, Virg.
Pleurisy.	Spikenard.
Prickly Ash.	Stillingia.
Quassia.	Stillingia Compound.
Rhatany.	Stone Root.
Rhubarb.	Squill.
Rhubarb, Aromatic.	Squill Compound.
Rhubarb and Senna.	Uva Ursi.
Sarsaparilla.	Valerian.
Sarsaparilla Compound.	Veratrum Viride.
Savine.	Witch-hazel.
Skullcap.	Yellow Dock.

APERIENT MAGNESIA.

There are but few intelligent persons anywhere who are unacquainted with the agreeable and useful medicinal qualities of MAGNESIA. Its importance is understood in domestic medicine, and both children and adults are greatly benefited by its employment ; it is the mildest and safest *antacid* and *laxative* known. Magnesia when combined with Citric Acid, forms the CITRATE OF MAGNESIA, and this combination is a cooling, mild cathartic.

In this aperient, Magnesia is held in saline combination, so as to be *permanent* and *soluble*, and therefore has great advantages over all other combinations. It is associated with other saline laxative agents, which tend to increase its cathartic influence, and promote mildness of operation upon the liver and alimentary canal.

The citrate contains carbonates, so that when water is added, decomposition results, and carbonic acid is liberated in large quantities. This gives to the Aperient its exceedingly elegant and grateful character. It can hardly be grouped with *medicines*, as they as a class are not pleasant

to the senses of taste or smell; but the Aperient is as pleasant as a glass of soda water when properly prepared. It, however, in proper doses exerts a decided influence upon the liver, stomach, and all the visceral organs, and gives tone and strength while it at the same time promotes gentle laxative action.

DIRECTIONS FOR USING THE CITRATE OF MAGNESIA APERIENT. — It is hardly necessary to name any specific diseases for which this medicine may be found useful; in fact, it is empirical to do so. In general it may be said that it is a MILD, SAFE, COOLING LAXATIVE, and, therefore, adapted to relieve congested or torpid conditions of the liver, stomach, and bowels. A large number of difficulties arise from *constipation*, and even from the sluggish state of the bowels; therefore, it is important that there should be a movement as often as once in every twenty-four hours. It is better that they move naturally, but so long as thousands are compelled to resort to aperients to promote action, it is important they should have at hand one that is *pleasant* and *safe*. The Aperient meets this want.

AS A MILD LAXATIVE. Put two teaspoonfuls of the Aperient into a dry tumbler, and pour on to it water enough to fill the tumbler two thirds full, stir with spoon, and drink during effervescence. The water may be cold or moderately warm. The best time to take the draught is in the morning, before breakfast; for nine cases out of ten the above amount will move the bowels, if gentle exercise be taken after breakfast; if it does not, mix and take the same amount after an interval of one or two hours. Those of constipated habits should take every morning a teaspoonful of the Aperient until the bowels move naturally. It meets all the indications for which Soda and Seidlitz powders are used, and it should be substituted for them in all cases, as it is much better and more agreeable.

ACID, CARBOLIC.

THIS is a well understood and most important agent, and is largely used by physicians, boards of health, sanitary committees, etc. We offer it in crystals of solid form, and also *in standard solution*. For use as a caustic, the solid form is most desirable ; but for all the purposes of disinfecting, preserving corpses, destroying insects, and the numerous uses to which it is applied by physicians, the saturated solution is most convenient and desirable.

SATURATED SOLUTION CARBOLIC ACID.

This standard preparation we have prepared for seven years, and it is known all over the country. As prepared by us, it is chemically pure, contains five per cent. of the crystals, and may be employed according to the following directions : —

For disinfecting purposes. — For disinfecting night-vessels, and all fecal matters, urine, pigsties, stables, cesspools, etc., dilute with four parts of water, and sprinkle over the offensive substances, or around the premises.

For preserving Corpses. — Use the solution full strength ; apply with a sponge, and sprinkle over the clothes.

For destroying Contagion in Sick-rooms. — Dilute with four parts of water, and sprinkle around the room. Carbolic acid is the *only safe* disinfectant that *destroys* contagious emanations.

For Cleansing Ulcers and Bad Sores. — Dilute with three

parts of water, and apply with soft sponge. It causes smarting, but soon away.

For the Itch. — Dilute with four parts of water, and apply with a sponge over the whole body once or twice. Sprinkle it over the clothing to destroy the spores.

For killing Insects on Plants. — One part of solution to six of water. Sprinkle over the plants, so that it will come in contact with the insects ; in five or ten minutes syringe well with pure water.

Our saturated aqueous solution is now a standard article in all parts of the United States.

CARBOLATE OF LIME.

Carbolic acid unites with lime, forming carbolate of lime. This is a cheap and most useful disinfectant. For stables, barnyards, cesspools, for destroying insects upon vines and in orchards, it is almost an indispensable article. It may be sprinkled around stables, manure heaps, or upon vines, and all bad odors will be destroyed, and flies and insects kept entirely away. Rats, cockroaches, etc., cannot endure carbolate of lime and will instantly flee from it, if placed in their hiding-places.

We put up carbolate of lime in casks of one hundred and two hundred pounds ; also, in boxes of ten and twenty-five pounds, and in one pound packets.

ACID, CHROMIC.

Used as an escharotic in syphilitic vegetations, and for the destruction of morbid growths. A solution made by ten grains in one ounce of water is considerably used by surgeons.

AMMONIA FERRIO ALUM.

One of the iron alums containing oxide of ammonium. It is a safe and excellent astringent. For morbid discharges from the vaginal canal, it is much used. A drachm may be dissolved in one ounce of water, forming a solution of medium strength.

AMMONIA, ELIXIR VALERIANATE.

This article, prepared by us for so many years, need hardly be alluded to, it is so well and favorably known to the profession. It is certainly one of the best nervines and antacids in use. Physicians who have not examined it will find it entirely different from the "Elixirs" which have sprung up since this was introduced in 1860. Dose, a teaspoonful as often as may be needed.

AMMONIA, ELIXIR VALERIANATE.

(AROMATIC.)

A more pleasant and agreeable preparation to the taste and the eye than the former. Dose, one teaspoonful.

BISMUTH, SUBCARBONATE.

Is quite soluble in the gastric juice, not liable to derange the bowels. Dose, fifteen to twenty grains three times a day.

BARK AND IRON.

See page 68 for information concerning this article.

BROMIDE POTASSIUM.

We were largely instrumental in bringing to notice this most valuable agent, in 1864. Its remarkable sedative tranquillizing power is well understood. In cases of ex-

treme nervous excitement, attended with wakefulness, it is of great usefulness. The salt, as prepared by us, is absolutely pure and reliable. Physicians will please observe our name and stamp upon the bottles.

OIL, COD LIVER.

We place this in our list of manufactures only to call attention to the purity of the article. It is drained and clarified in the winter months, every precaution being taken to observe cleanliness and low temperature in manipulating the livers. These are procured on the northeast coast, at Cape Ann, Rockport, Portsmouth, Seabrook, etc., and are perfectly fresh and sweet when placed in the steam cauldrons for trying. Physicians will be careful to observe our name upon the packages, if they wish to prescribe oil which is not nauseous and repulsive to their patients.

PURE COD LIVER OIL WITH HYPOPHOSPHITES OF LIME AND SODA COMBINED.

The suggestions of a considerable number of distinguished medical gentlemen in various parts of the country led us, about four years since, to prepare a combination of Cod Liver Oil and the Hypophosphites Salts, for trial in those cases of incipient phthisis for the relief of which the two classes of agents, used separately, have been so long in repute. The idea was, that the association of the oil, so rich in flesh-forming nutrient principles, with the phosphoric element of the salts, to support and invigorate, in conjunction, the brain and nervous centres, would furnish an agent capable in some measure of preventing waste of tissue and arresting the disease. In the use of the combination during the past few years, these views have been found to be correct ; and it is believed that the Oil and Salts so rich in the phosphorous element are capable, in association, of accomplish-

ing, as curative agents, what neither can accomplish separately administered.

The emaciation, waste, cough, acceleration of pulse, and all the well-known attendant symptoms of pulmonary disease, appear to be brought under control more readily and promptly by the use of the Cod Liver Oil and Hypophosphites Combined, than by any other known remedy.

THE TASTE OF THE OIL IS RENDERED MORE PLEASANT by the combination, the stomach retains the oil better, and the assimilation seems to be more easy and prompt. A pleasant saline taste is given to the oil, which covers in a measure its unpleasant odor and taste.

THE HYPOPHOSPHITE SALTS are very nearly *absolutely or chemically pure*. None of these products bearing our label contain carbonates or any other interfering impurities. During the twelve years we have so largely supplied them from our laboratory, not an ounce has been furnished wanting in the highest integrity and purity. Large quantities of the salts used by the profession have come from empirical sources, and were almost entirely factitious. Hence the disappointments and failures which have resulted in their employment.

The oil is better preserved and bears transportation more safely in small packages. The price in ten ounce bottles is one dollar each, or eight dollars per dozen. In gross quantities a discount will be made.

OXALATE OF CERIUM.

Used in cases of obstinate vomiting, especially that arising from pregnancy. Dose, from one to three grains, rubbed up in sugar.

ETHER, SULPHURIC, C. P.

We have for many years prepared this *extra* ether for surgeons' and dentists' use. It is almost absolute ether, and

perfectly free from all empyreumatic oils and acids. Dr. Jackson commends our mode of manufacture as preferable to others.

SYRUP OF THE PHOSPHATES OF IRON, QUINIA, AND STRYCHNIA.

This powerful tonic combination, for which the profession is mainly indebted to the late Dr. Eaton, Professor of Materia Medica in University of Glasgow, and Prof. Aitkin, of the Royal Victoria Hospital, has become a favorite remedy with a large number of physicians. We furnish it in small and large bottles, and in bulk. Physicians need to exercise in regard to this preparation, as indeed in regard to most others, much caution that they obtain the article with its *full strength* of the alkaloidal principles and iron. Large quantities of what purports to be Dr. Aitkin's Syrup in the market, is a weak and badly manufactured compound utterly unfit for medical use. Dose, twenty to sixty drops.

IRON PERSULPHATE.

The persulphate of iron, as suggested and used by Monsel, a French surgeon, has become an indispensable styptic with physicians. It promptly checks bleeding, by forming an indissoluble clot, and acts without irritation. The solution is the most convenient form for use.

IRON CITRATE AND STRYCHNIA.

We were the first to prepare the citrate of iron and strychnia, and we have often received the thanks of the profession therefor. *It is a most valuable remedy.* Cases of *obstinate constipation*, which depend upon atonic condition of the superior portion of the alimentary canal, are readily removed by this salt. With a knowledge of the combination, physicians will readily appreciate its value. Our preparation is in the **form**

of beautiful garnet-colored scales, easily soluble in cold water. They contain one per cent. of the alkaloid. Dose, from five to eight grains in pill or solution. We have acted in accordance with the advice of physicians in adjusting the combination, and for a period of twelve years it has proved to be the most judicious.

IRON CITRATE AND QUININE.

The formula we adopt is that of the most reputable English manufacturers. We present this double salt in scales of an emerald green color soluble in cold water.

IRON, PYROPHOSPHATE.

In brilliant green scales. We also offer it in the form of a syrup, which contains fifteen grains to the fluid ounce, and may be given in teaspoonful doses.

LIME, SULPHITE.

This long tried preparation for preserving cider and arresting the fermentative process in liquids, is designed to keep good cider good, but not to change *sour* cider into *sweet*. Thousands have used it the past fourteen years with perfect satisfaction, and none have been disappointed who have been careful to purchase the genuine article, and to follow the directions which accompany each package.

CAMBRIDGE, MASS., *Sept. 1, 1859.*

I have learned that various articles, and among them Whiting, Gypsum, Quicklime, and Bleaching Salts, have been extensively sold under the name of SULPHITE OF LIME, to be used in preserving Cider, according to the recipe which I furnished last Autumn to Mass. Horticultural Society. The imposition was doubtless in some instances due to ignorance of the constitution of Sulphite of Lime, and in others not. Besides the loss of Cider to individuals, the employment of these articles has thrown discredit on the process.

To guard against all imposition, I deem it important to state, that the

article sold by Messrs. JAMES R. NICHOLS & Co., Chemists, of Boston, is prepared according to instructions furnished by me, and is perfectly trustworthy.

E. N. HORSFORD,
Prof. Chemistry, Harvard University.

MAGNESIA, SOLUBLE CITRATE.

Being prepared in dry, granular form, perfectly soluble in cold water, its advantages over the *Solution* are manifest. We furnish it in square bottles holding about two and one half ounces each.

MAGNESIA APERIENT.

It is well known that it is the percolation of fresh water through, or over, deposits of Lime, Magnesia, Soda, Iron, etc., which imparts to the mineral springs their medicinal character. This *Aperient*, holding Magnesia in the form of Carbonate, Chloride, and Sulphate, and also the Salts of Soda and Potassa, has therefore all the saline or aperient principles of the *Natural Springs*, when water is added so as to dilute, and promote effervescence. As a saline cooling draught, it may be taken in teaspoonful doses every hour or two, until the desired effects are secured. See page 28.

PROPYLAMIN.

(In σ z. and $\frac{1}{4}$ oz. vials.)

This article has acquired an extensive reputation as a remedy in rheumatism. Physicians are divided in opinion respecting its efficacy, a large number declaring it to be a specific, while others have met with indifferent success in its use. The demand for it is rapidly increasing, which would not be did it not possess real merit. We would suggest an increase of the dose from that proposed by Dr. Awenarius,

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the discoverer. We find that physicians who have had marked success in its use, have given it in doses of five, ten, and fifteen drops, in a little peppermint water, once in two or three hours, until rheumatic pains abate. We give upon the labels of the vials the dose as proposed by Dr. A.

PROTEINE.

(In $\frac{1}{4}$ and 1 oz. Vials.)

Used as a nutritive tonic in cases of marasmus, or where the functions of assimilation are disordered, in children. Dose one to two grains.

POTASSIUM, CHLORIDE.

This salt has attracted much attention as a remedy in diphtheritic conditions of the throat and air passages. It has less oxidizing power, but more causticity than the chlorate of potassa. It is used as a gargle quite freely. One ounce is dissolved in four of water.

SYRUP HYPOPHOSPHITES OF LIME AND SODA

This syrup is prepared from pure salts, following Dr. Churchill's formula. Also the Syrup Hypophosphites Lime, Soda, Potassa, and Iron. Although specifically prescribed for phthisis, it is evident that their beneficial effects are not limited to this one variety of disease. Dose, one to three teaspoonfuls, three times in twenty-four hours.

SYRUP IODIDE IRON AND MANGANESE.

This combination, uniting the Iodide of Manganese with iron in the form of a syrup, has commended itself to physicians wherever introduced.

ACETIC CANTHARIDAL VESICANT.

A combination of pure *Cantharidin* with glacial Acetic Acid, forming a rapidly drying film, which is not easily disturbed by clothing coming in contact with it. It differs essentially from collodion, inasmuch as it does not contract the cuticle in drying, operates in less time, and with but little or no pain. It is a liquid, and may be applied to the parts desired to blister with a camel's hair pencil, and then the surface covered with oil cloth or linen. Blisters will appear in from thirty minutes to two hours, according to susceptibility of patients.

ACETIC CANTHARIDAL RUBEFACIENT.

This preparation is designed to produce rubefacient effects upon the skin, and may serve instead of mustard poultices and other slight counter-irritants. The parts may be painted with the liquid, one coating usually being sufficient. If the epidermis is tender, it may blister if allowed to remain over night. It should remain from one to four hours in most cases, and then be removed with ether or warm water.

SYRUP LACTO-PHOSPHATE OF LIME

Prescribed in cases of defective nutrition, osseous degeneration, rachitis, atonic dyspepsia, etc., etc. Each fluid ounce holds fifteen grains of phosphate of lime, in association with pure lactic acid. Dose, children, one or two drachms ; adults, a dessertspoonful twice a day.

CHEMISTRY OF THE CINCHONA BARKS.

CINCHO-QUININE.

THE chemical manipulation of the Cinchona or Peruvian barks reveals the presence in them of quite a number of most remarkable, complex bodies. No vegetable production, except the poppy, affords such a marvelous combination of valuable medicinal principles as the *loxa* and *calisaya* barks, and no substances have been studied with greater care or more intense interest by chemists. Nothing short of the subtle chemical forces controlled by the Infinite One could construct from the elements of the earth and air a bitter principle like quinia, or those other agents associated in bark, so closely allied to it physically and chemically. A handful of the finely comminuted fibres of the yellow bark, which resembles physically a dozen other varieties, is made to yield by the chemist, when treated with aqueous and alcoholic liquids and acids, a dark, bitter solution, unattractive in taste and appearance. If the process is skillfully conducted, or exhaustive in its results, there remains, beside the solution, a portion of woody fibre, inert and almost tasteless. It holds considerable coloring and some waxy matter, together with a little tannin ; but the active chemical or medicinal principles have been removed, and are held in the dark liquid. The exhausted bark is not entirely worthless, for it may be dried and used as fuel. But what of the dark liquid ? From this the chemist obtains, besides other substances, a portion of beautiful, white, silky crystals ;

not wholly of one distinct kind, but of several, all of which possess about equal chemical and therapeutical importance. No wonder it seems to the uninitiated in chemical manipulation a difficult work to perform. It is, however, quite easy to the thoroughly instructed. The first principle isolated may be the quinia. This is not held in the bark in its naked alkaloidal condition, but is locked up, in the form of a salt, with another principle called *kinic acid*. In the bark it is *kinate of quinine*. We isolate the quinia, tear it from its embrace with kinic acid, throw that away, force it into a kind of matrimonial alliance with sulphuric acid, and in this condition of *sulphate of quinia*, use it as a medicine. This kinic acid marries into several other families resident in the bark, prominent among which are *cinchonina*, *cinchonidia*, *quinidia*, etc. Precisely how many of these alkaloidal principles the different kinds of barks contain, is unknown; but it is safe to assume that there are as many as four others which, although not distinctly pointed out, are tolerably well recognized. These *kinates* are all *kindred* in nature, and all labor to the same end, when isolated and set to work as therapeutical agents in the human system.

In one hundred ounces of good yellow bark, we obtain about two and three fourths ounces of quinia, and two ounces of cinchonina, with variable amounts of the other principles, but less than the two named. It is to be regretted that we cannot remove the different families of kinates from the bark in their natural state of saline combination. It seems reasonable to suppose their action upon the system would be more salutary than in other forms. It is easy to isolate the kinic acid, and having the alkaloids, the kinates of quinia, cinchonina, etc., can be reformed; but in these chemical changes so much disturbance to natural organic combinations is made, that, practically, we realize no marked advantages. It seems unnatural to force a natural alkaloidal

base out of its association with an organic acid, and **recombine** it with a mineral acid. This we do in the preparation of the sulphate of quinia. However, as it has served so good a purpose for many years, it is not best to quarrel with the theory.

All the alkaloids of bark possess about equal febrifuge and tonic properties, when isolated and administered in that condition. This has been proved over and over again by all competent chemists and physicians, from Drs. Gomez, Duncan, Pelletier, Caventou, down to the time of Liebig's researches, a quarter of a century ago, and from that time to the present by a hundred careful chemical and medical observers.

How the one alkaloid, quinia, came to supersede the others, and drive them into the background, is easily understood, when we remember that it was about the first that was distinctly eliminated, studied, and experimented with; and the *éclat* it acquired caused everything else to be neglected. The natural bark, holding all the alkaloids, the quinia, cinchonia, quinidia, etc., has always been observed to produce more efficient and prompt results, both as a tonic and febrifuge, than the quinia, or either of the other principles in themselves; but holding also, as it does, tannin, gum, starch, fibrine, and coloring matter, all of which are medicinally interfering or inert, its use is rendered inconvenient and inadmissible in many cases. Beside, it is apt to produce disturbance of the gastric functions of an unpleasant character. Acting upon the idea that the natural alkaloidal principles of bark, in their simple, unchanged condition, separated from the gross, woody, and other matters, would better subserve all therapeutical ends than the barks themselves, or *any one* of the alkaloids separately employed, we have prepared CINCHO-QUININE.

Cincho-Quinine contains no external agents, as sugar

licorice, starch, magnesia, etc. *It is wholly composed of the bark alkaloids:* 1st, quinia; 2d, cinchonina; 3d, quinidia; 4th, cinchonidia; 5th, other alkaloidal principles present in barks, which have not been distinctly isolated, and the precise nature of which are not well understood. In the beautiful white amorphous scales of Cincho-Quinine, the whole of the active febrifuge and tonic principles of the cinchona barks are secured without the inert, bulky lignin, gum, etc. It is believed to have these advantages over sulphate of quinine:—

1st. It exerts the full therapeutic influence of sulphate of quinine, in the same doses, without oppressing the stomach or creating nausea. It does not produce cerebral distress as sulphate of quinine is apt to do, and in the large number of cases in which it has been tried, it has been found to produce much less constitutional disturbance.

2d. *It has the great advantage of being nearly tasteless.* The bitter is very slight, and not unpleasant to the most sensitive, delicate woman or child.

3d. It is less costly than sulphate of quinine. Like the sulphate of quinine, the price will fluctuate with the rise and fall of barks, but we shall supply it at all times at less than the lowest market price of that salt.

4th. It meets indications not met by that salt.

Cincho-Quinine admits of several pleasant forms of administration. We present the following

FORMULÆ AND METHODS OF USING CINCHO-QUININE.

A perfectly clear solution of *Cincho-Quinine* may be made by taking ten grains, rubbing it fine in a mortar, and gradually adding two fluid ounces of water, in which is dissolved thirty drops of No. 8 acetic acid, or six drops of sulphuric acid. The solution is not disagreeably bitter, and a pleasant

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elixir may be made from the solution, by adding syrup and aromatic flavors.

CINCHO-QUININE PILLS.

R	Cincho Quinine (finely powdered)	. . . . .	xx grs.
	Acid Sulph. Aromat. (Elix. Vit.)	. . . . .	xx gtts.
	Fiant pil. xx.	.	

Mix, and rub in mortar until it becomes hard enough to form into pills. The mixture is at first quite liquid, but soon it hardens, and pills can be readily formed from the mass. This is the preferable form in which to administer the remedy, as the pills are small, and can be readily taken. They may be *sugar coated* to render them more palatable.

CINCHO-QUININE ELIXIR.

R	Cincho-Quinine (finely powdered)	. . . . .	grs. xlviii.
	Aqua Rosæ (fresh)	. . . . .	℥ viii.
	Syrupus Simplex	. . . . .	℥ iv.
	Tinct. Cardamom.	. . . . .	℥ ii.

Mix. Dose as tonic, a dessert-spoonful three times in the twenty-four hours. The Elixir should always be shaken before it is administered.

CINCHO-QUININE POWDERS.

R	Cincho-Quinine	. . . . .	℥ i.
	Sacch. Alb. (powdered)	. . . . .	℥ iv.

Rub together in mortar, and divide into powders of any size desired.

When Cincho-Quinine is required to be given in large doses as in intermittents, the pill form is preferable, as the pills can be made into those containing five grains, and not be inconveniently large.

There are many other ways in which it may be prescribed, which will suggest themselves to the physician.

It is doubtful if it can be placed in a form suited to hypodermic use. But few experiments have, however, been made in this direction.

In intermittents, Cincho-Quinine may be given in five, ten, twenty, or even thirty-grain doses, the same as sulphate of quinine. As an introduction to the treatment of fever and ague with Cincho-Quinine, an ipecac or other emetic is often of the greatest service. Ten or twenty grains of Cincho-Quinine, or of sulphate of quinine, might as well, so far as medicinal effect is concerned, be dissolved in the contents of a waste bucket, as in a stomach loaded with food and the attendant juices. The remedy must act upon the walls of the stomach and the connecting organs, to produce constitutional effects.

In a recent visit to the wards of the United States Marine Hospital, Chelsea, Dr. Graves, the physician in charge, politely invited us to thoroughly examine the numerous intermittent patients, with reference to his treatment of this disease, it being based upon the use of emetics prior to administering the bark preparations. We believe the wards of no hospital in the world can show more cases of prompt and thorough recovery from the affection than this. It is not probable that the marked beneficial influence of the emetic is due alone to its work as an evacuator, but its general influence on the system admirably prepares it for the use of anti-periodics.

SUGAR-COATED CINCHO-QUININE PILLS.

For the convenience of physicians who have not at hand the necessary appliances for their manufacture, we now offer pills of Cincho-Quinine put up in bottles containing one hundred each.

We can supply three sizes, namely, one grain, two grains, three grains. *Price* about *half* that of Quinine Pills. *Dose the same.*

CINCHO-QUININE.

WE desire to call the attention of the medical profession to the voluntary statements of the following distinguished physicians, regarding the therapeutical value of Cincho-Quinine. Extracts might be made from hundreds of letters in our possession of similar import, which have come from medical men in all parts of the country. The excerpts made from the letters represent the opinions of physicians from Massachusetts to Florida, and from Florida to Texas.

At the present price of sulphate of quinine, it is sold at about one half the price of that agent, and with the testimony offered that it has equal tonic and anti-periodic effects, and that it is less objectionable, there seems to be no good reason why it should not be universally employed by the profession.

I have tried Cincho-Quinine pretty thoroughly, and, for children especially, I think it of the greatest value as an anti-periodic and tonic. It has a comparatively pleasant taste when mixed with sugar, which is a point of much importance. I am not prepared to speak positively regarding its anti-periodic power when compared with sulphate of quinine, but will do so at a future time. — S. A. BUTTERFIELD, M. D., *Indianapolis, Ind.*

The profession owe you a debt of gratitude for calling attention to Cincho-Quinine. In my practice it has entirely replaced the sulphate of quinine. — D. R. SILVER, M. D., *Apple Creek, Ohio.*

I wish briefly to speak of Cincho-Quinine. I have used it ever since it could be obtained, and with the happiest ef-

fects. I like it much better than the sulphate of quinine, especially in the cases of children. There are many adults who cannot take quinine on account of its distressing effects upon the head. In such cases, the Cincho-Quinine is just the thing. Those who have given it a trial will not be without it. — S. W. GOULD, M. D., *Argos, Ind.*

Referring to Cincho-Quinine, I wish to say that it is all that is claimed for it. It is an admirable preparation having all the beneficial effects of quinine without its objectionable qualities. I use it largely in my practice. — E. B. STUART, M. D., *Montgomery, Texas.*

I have tried your Cincho-Quinine in more than *forty* cases of intermittent fever, with as much, if not better success, than sulphate of quinine. — B. E. POWELL, M. D., *Glasgow, Mo.*

I am greatly pleased with your Cincho-Quinine. Please send me a further supply. — S. B. ANDERSON, M. D., *Lawrence, Kansas.*

I am well satisfied with the Cincho-Quinine. It has all the advantages of quinine, without its disagreeable taste, which, in the cases of children, is a point of much importance. — C. C. SMITH, M. D., *Redford, Mich.*

I have given the Cincho-Quinine a fair trial, and am much pleased with it. It has the advantage over quinine in that it does not produce headache and many other disagreeable symptoms. — S. A. BENNETT, M. D., *New Portland, Ind.*

I have used several ounces of the Cincho-Quinine, and find it excellent. In cases where the sulphate of quinine disagrees with patients, it works well. B. RAWSON, M. D., *Findlay, Ohio.*

I have tried the Cincho-Quinine, and am *more* than pleased with it. I used it in two cases where the patients

could not retain the sulphate of quinine, and it was not only retained by the stomach, but its anti periodic effects were most marked and pleasing. — I. I. STRISE, M. D., *St. Augustine, Fla.*

I wish to speak of Cincho-Quinine, which I have used in my practice. I am so much pleased with it, that I make it my *chief remedy* when bark preparations are needed. Besides, assessing all the medical properties, it is devoid of the unpleasant bitterness of the sulphate of quinine. — J. DENNISON, M. D., *Ovid, N. Y.*

We indorse all you claim for Cincho-Quinine; it is an excellent substitute for the sulphate. — DRS. DODD AND STEPHENSON, *Harrodsburg, Ind.*

I have used several ounces of the Cincho-Quinine, and have not found it to fail in a single instance. I have used no sulphate of quinine in my practice since I commenced the use of the Cincho, as I prefer it. — F. C. BATEMAN, M. D., *Centreville, Mich.*

I am happy to state that the results of the use of Cincho-Quinine have been eminently satisfactory; not a single instance of its failure to produce the expected effects has come to my knowledge.

Many of my patients, after using it, have specially requested that the Cincho-Quinine be given them instead of the sulphate. No complaint has been made of nervous disturbance. I have used it in all cases where the sulphate of quinine was indicated, and with equally good results. I think when physicians have given it a fair and impartial trial, they will use it in preference to all other preparations of the bark, in our autumnal fevers. — WILLIAM COOPER, M. D., *New Albany, Ind.*

I have been using the Cincho-Quinine considerably of late, and I prefer it to the sulphate of quinine in most cases. I think it affects the head less; but it requires a somewhat

larger dose. I think it a better tonic than the sulphate, but do not regard its anti-periodical powers as equal to it. It is a very valuable addition to our list of tonics, and as it is cheaper and more readily taken than quinine, I shall continue to use it, and recommend it to my medical brethren. — JAMES LAMB, M. D., *Aurora, Ind.*

I have used nine ounces of Cincho-Quinine ; and in cases of intermittent fever, I find it fully as efficacious as sulphate of quinine. A favorite prescription of mine is as follows : —

Cincho-Quinine, xii. gra.
Leptandrin, xxv. “

Mix and divide into six doses, one of these to be taken every three hours. This in all cases has promptly arrested intermittents, and my patients do not complain of the unpleasant head effects which follow from the use of sulphate of quinine. The Cincho-Quinine will frequently be borne by the stomach when the sulphate will not, and I regard it as a better tonic. In some cases of congestive fever, I prefer the action of the sulphate to the Cincho-Quinine. — IRA R. WELLS, M. D., *Genesee, Ill.*

I am happy to say that the Cincho-Quinine is all that you claim for it, and indeed it is more. I have used it largely in my practice this season, in intermittents, and it has not failed to accomplish all that I expected of it in a single instance. I have used it with success in several cases where I could not use the sulphate, on account of the stomach rejecting it. I find it produces much less constitutional disturbance ; and in the same doses, the therapeutical effects are fully equal to the sulphate. — E. W. KNEPPER, M. D., *Ligonier, Ind.*

I have used this summer three ounces of the Cincho-Quinine, and while I say that it does not fulfill all my expectations, I must regard it as a valuable addition to our list of remedial agents. It will break up intermittent fever just as quickly as sulphate of quinine, and produces no headache or ringing in the ears. It is a splendid tonic in build-

ing up debilitated constitutions. — J. J. II. LOVE, M. D., *Montclair, N. J.*

I have used one and a half ounces of the Cincho-Quinine, and I think very favorably of its effects. In a case of intermittent fever (the patient from Tennessee), I found it to operate as well and as promptly as sulphate of quinine, without any unpleasant head symptoms. In no case have I discovered any unpleasant cerebral disturbance, as is often found in the use of the quinine. — J. M. ALDRICH, M. D., *Fall River, Mass.*

I have used several ounces of Cincho-Quinine with the most complete success. I prefer it to the sulphate of quinine in intermittents, especially with children. I can strongly recommend it to the profession generally. — J. H. FREY, M. D., *Perry, Iowa.*

The Cincho-Quinine which I have used gave entire satisfaction. It has all the advantages you claim for it, and doubtless it will in time supersede the use of sulphate of quinine entirely. — SAMUEL W. COONS, M. D., *Madison, Ala.*

I have been using the Cincho-Quinine in my practice in intermittents and remittents, and I think well of it. I believe it to be quite equal to the sulphate, with all the advantages which you claim for it. — J. C. ROSS, M. D., *Lincoln, Ill.*

I have used Cincho-Quinine in eight or ten cases, and have reason to think well of the results. I give it as I do the sulphate, ten grains in five doses during the intermission, and five grains one or two hours before a paroxysm is due, and continue to give five grains once a week for three weeks. I shall continue to use it, and wish you to send me one ounce by mail. — J. C. DOWNING, M. D., *Wapping Falls, N. Y.*

“Not in a single instance have I known the Cincho-Quinine to produce that disagreeable nervous irritation, so dreaded by many sensitive persons, which we call ‘Quinism.’ Occasionally we find patients of peculiar constitution upon whom the sulphate operates very injuriously. Last summer I gave to an intimate friend, a very intelligent gentleman of this city, and under his protestation too of its disagreeable effect upon him, eight grains. In a half hour, to use an expressive common phrase, he was as “red all over as a boiled lobster.” This rash, red as that of scarlet fever and very like it in appearance, was accompanied with excessive nervous excitement, intolerable itching, quick pulse, mental agitation, and although a man of decided resolution and vigorous intellect, his features for a few hours manifested extreme fright, very like the expression we see in “delirium tremens.” The next day, the effects of the sulphate having ceased, the Cincho-Quinine was prescribed in six-grain doses. The effect was speedy, decided, and not in any respect disagreeable. The fever (remittent) ceased, I think on the third day, and my excellent friend was as much delighted as myself to discover that there was in the world a remedy to cure *his* fever without almost killing him.

“Another intelligent gentleman of this city, an intimate friend, had taken the sulphate some hours before I saw him. In this instance there were red spots over the surface of the body. He directed my attention to them, and said the sulphate always so affected him from childhood ; on one occasion, with the spots, there was also blood in the urine. The Cincho-Quinine was substituted for the sulphate, agreed with him perfectly, and the fever was soon cured.

“These two cases seem to me to illustrate in a very practical way the value of the Cincho-Quinine.

“D. SHELBY, M. D., *Huntsville, Ala.*”

"IODIDE OF LIME,"

A SUBSTITUTE FOR IODIDE OF POTASSIUM.

THE greatly enhanced price of Iodide of Potassium has turned the attention of physicians to this valuable combination of Iodine, and it has largely taken the place of the Iodide of Potassium as an alternative.

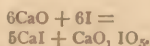
One ounce of the salt may be dissolved in two pints of boiling water when a precipitate of the superfluous Lime takes place in the form of a Carbonate. A fluid ounce containing two grains of Iodine, the dose is two teaspoonfuls twice a day. We have also the Iodide of Lime in the form of a *Concentrated Syrup*, which is a convenient and available form. Dose the same.

CHEMICAL CHARACTER.

The "Iodide of Lime," first introduced in 1855 by Dr. Puddock, a distinguished London physician, has been rapidly gaining favor among English practitioners as a remedy of great value. We introduced it to the notice of physicians in 1858. The name given to the preparation is one not clearly understood by the profession, although the exact nature of the salt has been explained constantly in circulars and medical journals. It may be stated that the Iodide of Lime possesses peculiarities not belonging to the iodides generally. In combining the element iodine with calcium in the form of oxide, new bodies are created upon which is founded its medicinal character. It is probable that the

iodine and oxide of calcium exist chemically in a form similar to that between chlorine and lime, in the so-called chloride of lime, and hence the name "Iodide of Lime" has been given it. It is a name which more briefly and properly expresses its nature than any other, and, having chemical precedent, is allowable.

The new bodies formed by the combination are Iodide of Calcium and Iodate of Lime.



The chemical affinities of the salt are so feeble that it must be kept in a well-stoppered vial. It is probable that iodine exists in the preparation in the form of an oxide, and hence the utility of this form of its administration. In syrup, or solution, it is readily decomposed by acid, and free iodine is evolved. With a knowledge of the disagreeable and acrid character of iodine and its preparations, it is difficult to believe that it exists in the clear and tasteless syrup. A simple experiment proves its presence, and physicians are urgently requested to test it. Take a wine-glass, tumbler, tea-cup, or any small vessel, and pour in a small quantity of Syrup of Iodide of Lime; then add a few drops of almost any kind of acid, sulphuric, muriatic, or acetic, and observe the prompt discoloration, and the evolution of free iodine.

This is a conclusive test, and cannot fail to interest medical men.

THERAPEUTIC VALUE.

Since the Iodide of Lime became known, its reputation as a valuable therapeutic agent has become fully established. We have upon our files a large number of letters from physicians, thanking us for calling their attention to the salt, and stating specific cases in which it produced marked results

It presents one of the most powerful alterative agents in a form capable of exerting full action upon the system, and this in minute and pleasant doses. It is conceded that the alterative, resolvent, or tonic effects of iodine are exerted only when associated with other elements in combination. Binary compounds, like iodide of potassium, although given in large doses, produce but slight remedial effects, as the great bulk passes off and is wasted through the excretory organs. No fact in medicine is more distinctly understood than that the urine of patients under the influence of full doses of the iodides of potassium, sodium, or ammonium, is loaded with these unchanged salts in solution. Observation and experiment lead to the conclusion that the specific effects of iodine, even when most marked, are due to very minute quantities, and, like iron, when administered in unscientific or improper forms, the energies of the system are wasted in efforts to reject it.

How imperfect is our knowledge of *doses*. Who can tell what a right dose of any medicine may be? If we are groping in the dark, in this regard, an enlightened judgment should lead us to prefer the smaller rather than the larger dose, when we observe that the former is all economized, or employed, while the latter is in great bulk rejected. A fractional part of a grain of iodine, in the form of Iodide of Lime, produces, to say the least, as marked effects as ten grains of the same element when associated with potassium. A fractional part of a grain of iron produces more decided results in the form of a proto-salt, than twenty-five of the old sequi-oxide or carbonate. Why, then, should we not employ iodine and iron in the new and improved forms, and reject the old? Chemistry, the handmaid of medical science, ought to teach us new truths, and does it not? It certainly does, and among these new truths none are more important than the different degress of assimilability conferred on agents by different combinations.

The Syrup of Iodide of Lime contains but little sugar, no more than is needed to render it pleasant, and preserve the combination. Its taste is slightly saline, but will be as readily taken by children as clear water. Each fluid ounce contains four grains of iodine, of *which in this form*, one quarter to one half grain is a full and sufficient dose.

The first advantage, then, which Iodide of Lime has over the other iodides is in the smallness of the dose, and the minute state of its atomic division.

2. In its ready combination with the blood and tissues, manifested by its alterative effects.

3. In not passing off rapidly through the kidneys.

4. In not producing gastro-enteritic and vesical irritation.

5. In being cheaper than the other iodides.

6. In being compatible with most remedies. and admitting of a variety of combinations in extemporaneous prescriptions.

Large doses of iodide of potassium are often given with the view of obtaining sorbefacient effects, or with the idea that disease can be washed away through the kidneys, by a stream of the solution flowing through. This seems a medical absurdity, and undoubtedly is one. The Iodide of Lime should not be employed for such ends. Iodine is certainly not a reconstructive element, like iron, but it must remain in the system to produce alterative effects.

The first effect usually observed when the Syrup of Iodide of Lime is taken, is an increase of the appetite, showing that it has tonic properties of a marked character. Pale, scrofulous children, improve rapidly under its use, and the vital functions assume a normal or healthy condition.

It is admirably adapted to a large number of chronic or acute affections peculiar to children. It is suited to them both by the mildness and efficiency of medicinal effect, and the pleasant, attractive form of the remedy. It may be given

for a long period where constitutional influences are desired, and no repugnance, or disinclination to take the syrup encountered. In white swellings, hip-joint disease, and distortions of the spine, it should be given persistently in moderate doses until relief is obtained.

Glandular tubercles, ophthalmia, ezæna, lupus, fistulous and carious ulcers, yield to treatment with Iodide of Lime more readily than with other agents.

Scrofulous ulcers and abscesses of the cervical and sub-maxillary glands, are affections successfully treated by it. It may be used externally as a wash to ill-conditioned ulcers, abscesses, and scaly eruptions, by diluting the syrup with three or four parts of water and applying twice a day, morning and night.

Cases of incipient phthisis, and even confirmed tuberculosis, are reported as having been greatly benefited by it.

It is hardly necessary to specify further the affections for the relief of which it has proved efficient.

It unquestionably possesses an alterative power which belongs to few other remedies and every physician will readily understand the affections in which its use is indicated.

It should be observed that the above statements as regards its therapeutic value are based upon the experience of a large number of physicians resident in various States ; and the time of trial, seven years, is regarded as fully sufficient to test its worth.

Sarsaparilla compounds, iron and bismuth preparations, rhubarb, columba, and most other tonics and cathartics, are perfectly compatible with it, and may be combined in prescriptions in any form desired.

The dose for adults is one teaspoonful two or three times in the twenty-four hours, to be increased gradually as may be required, or as constitutional effects may seem to indicate. Children half the quantity.

It is put up in packages holding one pound, and may be procured of most druggists in various sections of the country. Those not having it, will order from us upon request being made by physicians desiring to prescribe it.

CITRATE OF IRON AND MANGANESE.

There seems to be no good reason why the *citrate of iron and manganese* should not displace the well-known citrate of iron. The citrate of iron and manganese is, like the iron citrate, presented in the form of *beautiful garnet-colored plates*, which are readily soluble in cold water. The taste is very pleasant, rather pleasanter than the common iron citrate, and it may be prescribed in the same manner. It possesses the very great advantage of combining with the iron a soluble salt of manganese in just the right proportion, so that all the desirable qualities which can possibly result from the iron are secured, and, in addition, the manganic property, which is often of more importance than the iron.

The fact that iron is one of the normal elements of the blood has been universally admitted since the demonstrations of Menghini, Fork, and Laibach.

Now, as Scheele's and Gahn's discoveries in 1774 showed that manganese is invariably associated with iron in organic nature, a suspicion arose that it existed also in organisms containing iron, and it was subsequently found not only in a multitude of plants, but also in the blood, flesh, milk, etc., as a constant accompaniment of iron.

Fourcroy and Vauquelin had already discovered manganese in bone-ashes; afterwards, in 1830, Wurzer found it in calcined blood; Millon in 1847, Marchesan in 1848, and, lastly, Hanon, in 1849, formally declared, after further diligent research, that manganese is the constant and natural associate of iron in the blood.

Such facts could not fail to lead to the inference that, as

morbid elements are produced by the absence or deficiency of iron in the blood, the same effect must likewise occur with regard to manganese, and consequently that, whenever the exhibition of iron alone failed to cure chlorosis, the sole cause was that these chalybeates could not supply the economy with the manganese which was wanting.

Repeated experiments soon confirmed the truth of these conclusions. Numerous analyses of the blood demonstrated that the diminution of the proportion of iron in the blood of chlorotic patients was in constant ratio with the diminution of manganese, and many obstinate cases of chlorosis, which had resisted all treatment with chalybeates, were completely cured by ferro-manganic preparations.

These facts led Dr. Hanon to the singular theory which consisted in distinguishing two kinds of chlorosis, one arising from a deficiency of iron, the other from a deficiency of manganese. But as Dr. Hanon was unable to give a diagnosis of the difference between these two kinds of chlorosis, we cannot but regard as empirical his method of administering manganese by itself in cases for which iron alone had produced no result.

Chemical experiments having demonstrated, as above stated, that manganese exists in the blood simultaneously with iron, and in clearly determined proportions, the absence of one being always attended with a proportional decrease of the other, this fact supplies a most reasonable motive for the simultaneous use of manganese and iron for all cases in which the exhibition of the latter alone was insufficient.

The subsequent experiments of Dr. Pétrequin, and after him of Dr. Gensoul, Gubion, Contagne, Bonnaric, Delorme, and many more, perfectly justified this theory, and we can assert, without fear of error, that it is not only rational, but indispensable, in many cases to prescribe ferro-manganic preparations instead of the simple chalybeates hitherto employed.

There is no form of ferro-manganic combination so beautiful and efficient as the scales, which are perfectly soluble in water, and therefore adapted to prescription employment.

The scales contain of citrate of iron *seventy-five per cent.*, of citrate of manganese *twenty-five per cent.* This affords the best proportion of the two agents, and meets all the possible needs of the physician.

The scales of *tartrate of iron and manganese* are equally beautiful and pleasant, but not so *readily soluble* as the citrate. The proportions in both salts are the same, and the cost is also the same. These new scientific combinations may be employed in place of the common citrate and tartrate of iron with manifest advantages. The *citrate of iron, manganese, and strychnine* may replace the citrate of iron and strychnine, so well known to every physician. This preparation is in scales, and they contain the same proportions of iron and manganese, with *one per cent.* of strychnine.

OPIUM AND ITS ALKALOIDS.

OPIUM must certainly be regarded as the most extraordinary of all vegetable productions. Containing, as it does, a large number of substances which have been examined, studied, and experimented with for centuries, it is indeed surprising that so little is known regarding their separate or combined physiological action. Every physician is presumed to be familiar with opium; and, in active practice, it is relied upon more than any other drug; and yet, in many important particulars, the views of medical men do not harmonize regarding its value in specific diseases.

The recent experiments of M. Bernard, as reported to the College of France, entirely controvert some generally entertained opinions regarding the physiological effects of the alkaloids of opium, and awaken a new interest in one or more which have hitherto received but little attention.

The six principles of opium, *morphine*, *narceine*, *codeine*, *narcotine*, *papaverine*, *thebaine*, contain or embrace the soporific and toxicological powers of the drug, and each exert separate and peculiar effects upon the system. The first three are soporifics, and induce sleep ; the three latter have no properties of this nature, and are as distinct in their physiological influence as if belonging to another and quite distinct class of plants. Further : the sleep induced by the three first-named substances is peculiar. Morphine, narceine, codeine, each produced a characteristic sleep ; and this is one of the most interesting and important points brought out by the researches of M. Bernard.

Briefly stated, *morphine* may be said to produce a very profound sleep ; yet there is a certain degree of sensibility in the patient while under its influence. The brain is sensitive to sudden noises ; if the extremities are pinched, it is made evident that they are alive to pain ; a sudden light introduced before the eyes awakens the patient. Upon awakening, there is often a peculiar haggard appearance, which may last only for a moment. The sleep, at best, is quite unlike the natural, and, although a great relief to the suffering, is far from being satisfactory to physician or patient.

The sleep produced by *codeine* is less profound. Men and animals under its influence are easily aroused. There is a certain tranquillity or calmness produced, but imperfect sleep. The effect of codeine may be said to be an exaggeration of the excitability or half-conscious sleep of morphine. The most remarkable difference between the physiological effects of the two principles is seen upon awakening. The patient awakes from morphine in a kind of fright, with the posterior extremities half paralyzed, and with considerable intellectual disturbance. From codeine, he awakes quite free from these unpleasant symptoms ; his mind is comparatively clear ; and, in a measure, the patient is free from heavy stupor.

The sleep produced by *narceine* partakes of the nature of that from morphine and that from codeine. M. Bernard asserts that *narceine has greater power of producing sleep than any other element of opium*. Since the publication of his paper, presented to the French Academy, the writer has experimented somewhat extensively with narceine, and the results, carefully observed, do not fully sustain the views of the distinguished author. It is important that alleged extraordinary results, in the use or trial of new agents, should be extensively examined and tested before implicit faith is reposed in them. The writer has experimented upon himself and others, under circumstances of health and disease, with narceine; and, while results do not fully sustain M. Bernard's estimate of the alkaloid, it is certain that the views hitherto entertained regarding it are erroneous. The pure alkaloid in doses of one-quarter and one-half grain, produced no appreciable effect; increased to a full grain, its soporific influence was felt; and, in large doses, a calm sleep induced. The sleep is so like the natural, that it is difficult to decide, upon awakening, whether, after all, it was not due to natural causes, rather than to the drug. Patients in a wakeful condition, who have slept, after having had administered, either by sub-cutaneous injection or the stomach, from one half to one and a half grains of narceine, are inclined to doubt the efficacy of the remedy. All the functions are found in a condition perfectly normal, and, consequently, the sleep is attributed to accidental rather than induced causes.

The statement in text-books, and works upon materia medica, that narceine is practically an inert substance, is erroneous; and also the assertion of M. Bernard, that, in equal doses, animals are made to sleep more profoundly by narceine than by the other alkaloids of opium, it is believed, will be found not strictly correct. It must be conceded that narceine, as a component of opium, plays an important part

in the aggregate influence it exerts upon the system. Although present in only minute quantity, it probably modifies the action of both morphine and codeine, so far as their soporific influence extends ; and also it may in some degree hold in check or mitigate the influence of the more deleterious bodies, narcotine, papaverine, thebaine.

As an isolated body, it can never (however valuable it may be) have a very wide field of usefulness, owing to the small percentage found in opium and the difficulties of its isolation. The cost of production will prevent its general employment.

The study of the different properties of the different active agents found in opium leads to the conclusion that the combination, as elaborated by nature, has many advantages over any one separated from other of its associates.

By this, we are not to understand that morphine or narceine are not of great value by themselves, but that the modifying influence of each upon the other renders the drug, when purified from its useless or poisonous constituents, a compound remedy of superlative excellence in a vast number of diseases.

Leaving out of view all other therapeutical uses of opium, its power of inducing sleep, allaying nervous irritation, tranquillizing the excited brain, — these are its great and important qualities ; and to best meet the numerous cases which come under the care of the physician, ought not the three great soporific agents, morphine, codeine, narceine, be retained, that they may act conjointly ? The first is capable of striking a blow, perhaps necessarily harsh, which is modified by the milder and more genial influence of codeine and narceine.

Some empirical solutions of opium have long been used by many physicians. They differ from the standard officinal preparations only in mode of manufacture, by which is re-

moved some of the extraneous properties and interfering constituents found in the drug.

It has been supposed, by those who have carefully studied the physiological effects of opium, that, associating with the ethereal and aqueous extract other nervines or anodynes, increased its soporific or tranquillizing power. With this view, compound spirit of ether, valerian, etc., have been combined and used with alleged success in hospitals and private practice.

The unpleasant taste of both these substances, together with the fact that they affect unfavorably large numbers of nervous patients, must preclude the general use of any such combinations.

The revised edition of the U. S. Pharmacopœia fortunately contains a formula for a preparation of opium, which fully meets all the desirable ends contemplated in this communication. It is called *Tinctura Opii Deodorata*; and in its preparation an aqueous solution of opium is first obtained, which holds all the normal soporific constituents, morphine, codeine, narcine, without the resin, lignin, earthy matter, etc., and then, with the use of ether and alcohol, most of the narcotine, papaverine, thebaine, gum, bassoren, and albumen are removed.

It is to be regretted that the name *Infusum Opii Deodoratum* was not adopted instead of that given it, inasmuch as it is effectively a watery solution, and not a *tincture*.

In order to have this most excellent preparation fulfill perfectly all those desirable ends of which it is capable, the opium used should be accurately assayed, in order that perfect uniformity be maintained in the preparation. Opium, as found in the market, differs so largely in the amount of morphine salts contained, that no preparation can be reliable which is not made from that of ascertained strength. The great danger arising from the use of ether, and the

want of suitable apparatus and experience, causes this officinal, in its manufacture, to rest under the disadvantage of not being adapted to the shop of the ordinary apothecary. It should only be made by those having competent knowledge and suitable laboratory appliances to render it accurate and reliable.

The ordinary sedative dose of this is twenty-five drops, equal to about one sixth of a grain of the opium alkaloids.

If much pain or irritation is to be combated, ten, fifteen, or twenty-five drops more may be required. A pleasant tranquillity and calmness is usually produced by the minimum dose ; but in some cases, to complete the effect and produce quiet sleep, a repetition of the dose is required.

The advantages of this preparation are, that the cerebral disturbance, constipation, and other unpleasant consequences resulting from the use of opium in the usual forms, are entirely, or in a great measure avoided.

This form of the drug may be resorted to to produce soporific and anodyne effects, when others could not be administered with safety ; and therefore it is calculated to meet a want long felt by every physician in active practice.

INFUSUM OPII DEODORATUM.

The officinal preparation of opium referred to in the preceding communication, is furnished by us in packages containing one pound, and also in vials holding one fluid ounce. It is often convenient for physicians to purchase or prescribe quantities as small as a single ounce of active remedies, and therefore we shall aim to furnish the Infusion of Opium in packages suited to the convenience of the profession.

Physicians can procure this preparation, and others of our manufacture, by requesting the druggist with whom they deal, to procure them of us, or through the usual channels of trade.

Baron Liebig's Food for Infants and Invalids.

With that remarkable estimation of the greatness of small things which is one of the most valuable of his many high intellectual qualities, and with a tender appreciation of the importance of small people, Baron Liebig devotes a special article in an English scientific periodical to the description of a new article of diet which he conceives to be the most fitting substitute for the natural nutriment for those children who are by circumstances robbed of their mother's milk. It is well known that cow's milk does not adequately represent the milk of a healthy woman, and when wheaten flour is added, as it commonly is, Liebig points out that, although starch be not unfitted for the nourishment of the infant, the change of it into sugar in the stomach during digestion imposes an unnecessary labor on the organization, which will be spared it if the starch be beforehand transformed into the soluble forms of sugar and dextrine. This he effects by adding to the wheaten flour a certain quantity of malt. As wheaten flour and malt flour contain less alkali than woman's milk, he supplies this when preparing the soup.

The Food thus prepared supplies a want long felt by those having the care of children and invalids, and is well calculated to save the lives of the little ones, in cities particularly, where cow's milk is so adulterated or attenuated as to afford but little proper nourishment. Consumptive patients and those of feeble digestive powers will find this preparation admirably adapted to their wants.

We have completed our arrangements for preparing this Food on a large scale, and can furnish it in packages of convenient size for family use. We manufacture the article in *precise accordance* with Baron Liebig's directions, and the materials are of the best character.

PERMANGANATE OF POTASSA.

This salt possesses an oxidizing power of uncommon energy. It rapidly and effectively destroys all offensive odors proceeding from ulcers and suppurating surfaces ; and its application so changes foetid discharges, that healthy granulations are produced in wounds and sores, and the healing process is at once set up. It has been of transcendent importance to our army surgeons in the treatment of gangrenous wounds. It will destroy, when used in weak solution, the odors proceeding from the discharges of the sebaceous glands, so annoying to many females ; also, it will instantly cleanse bad-smelling feet, and all unpleasant exhalations from whatever source proceeding.

It is well known that cider, beer, wine, vinegar, etc., no matter how good, are spoiled by being put into foul or musty casks. To brewers and cider makers who know the difficulty of *curing* musty casks, we confidently recommend our Liquid Permanganate of Potassa. Put up in pint bottles, each sufficient to cleanse four casks of thirty-six gallons. Price per bottle, seventy-five cents.

PROTOXIDE OF IRON AND ITS COMBINATIONS.

It is unnecessary to remind the medical profession of the efficacy of Iron as a tonic in all forms of weakness arising from a deficient supply of nervous energy.

Many of the preparations of Iron are objectionable, not being readily assimilable ; they are uncertain in their effects, and often nauseous and unpalatable. In 1858 we introduced to the profession a series of iron preparations, giving their composition and method of production, that physicians might see and judge of their value as therapeutic agents. They have borne the test of time, and the increasing demand for them by the trade in various parts of the country

is satisfactory testimony of their popularity with the profession.

UNCHANGEABLE SOLUTION PROTOXIDE OF IRON.

The experiments of Quévenne, Bouchardet, and others, prove that the metal administered in the form of protoxide salt is best adapted to increase the red corpuscles of the blood; but its tendency to pass to the sesquioxide condition has prevented it from being made available. This preparation holds in solution a salt of the Protoxide of Iron so combined and protected that it does not undergo any change when exposed to the air; and as it is much more readily assimilable, a less amount is required as a dose. *No form of Iron should be taken upon an empty stomach.*

Dose for adults, one tablespoonful three times a day during, or immediately after meals. If too bracing, diminish one half.

PROTOXIDE OF IRON WITH IODIDE OF LIME.

This preparation combines tonic and alterative properties in a high degree. Each fluid ounce contains twenty-four grains of Protoxide of Iron, and two grains of Iodide of Lime. Dose, one teaspoonful twice or three times a day. Children, half the quantity.

PROTOXIDE OF IRON WITH IODIDE OF POTASSIUM.

Each fluid ounce contains two grains Iodide of Potassium and twelve grains of Protoxide of Iron. Dose, adults, teaspoonful twice or three times a day.

PROTOXIDE OF IRON WITH QUININE.

Each fluid ounce contains one grain of Quinine and twelve grains of Protoxide of Iron. Dose, adults, tablespoonful two or three times a day.

PROTOXIDE OF IRON WITH RHUBARB AND COLUMBO.

It has been found that the tonics named are capable of almost uniformly affording relief in obstinate cases of dyspepsia, dependent upon debility and prostration of the nervous system. For delicate females and children it is a remedy which physicians highly value. Each fluid ounce contains twelve grains Protoxide of Iron, and four grains each of Rhubarb and Columbo.

Dose, adults, one to two teaspoonfuls two or three times a day.

“BARK AND IRON.”**ELIXIR PERUVIAN BARK, WITH PROTOXIDE OF IRON.**

This preparation has been more favorably received by the profession than any of the Iron combinations introduced during the past fourteen years. A prominent peculiarity and advantage consists in associating iron *not* in a *sesquioxide* condition, but in the more easily assimilable form of a *protosalt* with all the valuable alkaloids of Peruvian Bark in an elegant and permanent compound, where the chemical equilibrium of each principle is undisturbed. We unhesitatingly express the opinion that no more pleasant and desirable chalybeate and tonic has ever been offered to the profession, and so far as our knowledge extends, this result (the combination of a Protoxide of Iron with the active principles of Peruvian Bark) is not attained in any of the numerous preparations crowded upon the public as a substitute and imitation of our compound. The unusual popularity of this remedial agent with the profession is due to the following facts, — facts which must commend themselves to scientific physicians everywhere : —

1. The presence of iron in perfect solution, and in the form of a protosalt.

Hitherto the attempts at association have been confined to the *sesquioxide* salts, which, besides their medicinal inferiority, precipitate the astringent principle of vegetable substances, thus producing inky and unpalatable compounds. The iron is held in solution by a very feeble chemical affinity, and under the influence of warmth and moisture in the stomach, is readily decomposed, and the freed protoxide is assimilated at once. The liberated acid likewise acts as an acceptable tonic and refrigerant, and aids materially the medicinal effect. Repeated trials have demonstrated the somewhat remarkable fact that the protocitrates and tartrates possess no marked medicinal influence, — while prompt and desirable results are attained by the use of the protosalts. We have frequently been told by physicians that returning color was observed in the lips of chlorotic and anæmic patients within twenty-four hours after prescribing this remedy. The debility and exhaustion resulting from protracted mental labors or business cares, have been frequently counteracted by using this combination.

Test for Protoxide of Iron. Pour a small quantity of the Elixir into a wine-glass, add a few drops of ferricyanide of potassium. The instant change of color to deep blue shows the presence of iron in the form of *protosalt*.

2. The combination of all the alkaloids of Peruvian Bark with the protosalts of iron in a solution where the chemical equilibrium of each principle is undisturbed.

It is not expected of us to state *why* bark alkaloids are preferable to other tonics in numerous cases of disease. The combination produces results of marked activity, because the chalybeate influence of the former becomes more prompt, the tonic properties of the latter more decided, and the association of the organic with the inorganic enhances the activity and assimilability of each agent.

3. Attaining this result with the use of the least possible amount of saccharine matter.

It contains but a small amount of syrup, so objectionable to many patients on account of its producing acidity and flatulency in a weak or disordered condition of the stomach.

4. It is an aromatic cordial elixir, pleasant and acceptable to all classes of patients.

The great importance of this point is becoming more and more apparent to the profession. Indeed, it is now generally conceded that the physician who wishes to retain his patients must contrive so to prepare his remedies as to remove all that is offensive in taste.

The ordinary forms in which iron has been presented are generally disagreeable to invalids ; they are inky, astringent, or leave an intensely metallic taste in the mouth. These objections seem to be obviated in the Bark and Iron ; and we believe the most sensitive and fastidious in matters of taste commend the elegance of the preparation.

5. There is no valid objection to the free use of the preparation by the profession.

In its introduction we have observed the strictest rules of medical ethics, and taken unusual pains to place before the profession the formula and method of manipulation.

While it is largely sold in pint bottles on account of liability of breakage in larger packages, yet we sell to the trade by the gallon or carboy ; and physicians can prescribe the article in any quantity, or in combination with other remedies, as desired. The price is at the lowest possible point, about the same as Huxam's, or other simple preparations of Bark. The Elixir of Bark and Iron contains in each fluid ounce about six grains of iron, and what is equivalent to twelve grains of the best Calisaya Bark.

Dose, for adults, one to two tablespoonfuls three times a day ; if too bracing, half the quantity.

SIMPLE ANTIDOTES FOR POISONS.

POISONS.	ANTIDOTES.
Nitric Acid.	{ Calcined Magnesia. Bicarb. Soda (bread soda) in milk or water. If not at hand, a substitute may be found in Chalk or Whiting. Olive Oil, Linseed Tea, or Barley Water, may be freely given.
Sulphuric Acid.	
Muriatic Acid.	
Caustic Alkalies, and their Salts.	{ Give freely of Vinegar and Water ; follow with acidulated drinks, Lemon Juice, etc.
Lime, Zinc, Silver, Barium, White Vitriol.	{ Emetics, unless spontaneous vomiting has freely taken place. { If the irritant has passed from the stomach into the intestines, it must be carried off by purgatives.
Arsenic.	{ Equal parts of Oil and Lime Water may be administered.
Bismuth and its compounds.	{ Albumen, mucilaginous drinks.
Copper and its compounds.	{ Whites and yolks of several Eggs should be given, followed by draughts of Milk.
Iodine and Iodide of Potassium.	{ Arrowroot ; Flour. Starch in large quantities, with Water. Afterwards Vinegar and Water freely.
Mercury and its salts.	{ Albumen, Milk, Flour ; Raw Eggs, with Milk, should be freely given.
Lead and its Salts.	{ Albumen, Epsom Salts, Lemonade.
Opium and other Narcotics.	{ The stomach-pump should be used at once. In the absence of this instrument, Emetics are to be freely given.
Strychnine.	{ Emetics are to be freely given, — Tannin, Tr. Iodine. Chloroform or Ether to relieve pain,

APPROXIMATE DOSES AND MEASUREMENTS.

The following table of Gaubius, exhibiting the doses proportioned to the age is frequently referred to :—

The dose of a person of middle age being 1, or 1 drachm.

That of a person from 14 to 21 years will be $\frac{2}{3}$, or 2 scruples.

7 to 14	"	$\frac{1}{3}$, or $\frac{1}{2}$ drachm.
4 to 7	"	$\frac{1}{3}$, or 1 scruple.
of 4 years	"	$\frac{1}{4}$, or 15 grains.
3 "	"	$\frac{1}{6}$, or 10 grains.
2 "	"	$\frac{1}{8}$, or 8 grains.
1 "	"	$\frac{1}{12}$, or 5 grains.

To the above rule some exceptions are offered in particular medicines, which require larger proportional doses in children than above stated. Sex, temperament, and idiosyncrasy, have also an influence upon the dose, and should be kept in view in prescribing.

A wineglass contains about two fluid ounces.

A tablespoon contains about half a fluid ounce.

A teaspoon contains about one fluid drachm.

A teaspoon contains about sixty drops.

Measures of the U. S. Pharmacopœia in cubic inches.

One Gallon	is equal to	231 Cubic inches.
One Pint	"	28.875 Cubic inches.
One Fluid ounce	"	1.80468 Cubic inches.
One Fluid drachm	"	.22558 Cubic inch.
One Minim	"	.00375 Cubic inch.

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